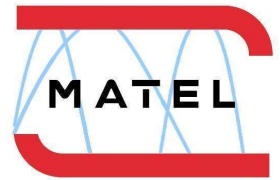


# Miniature AT-Cut Crystals

## MF-UM1 & MF-UM5



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FEATURES
10 to 125 MHz Case Name: UM1/UM5 Resistance Weld Sealing Low Ageing
APPLICATION
Industrial Consumer

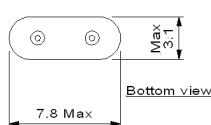
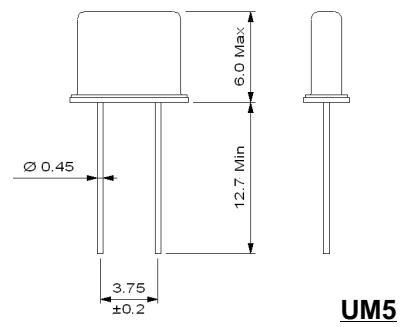
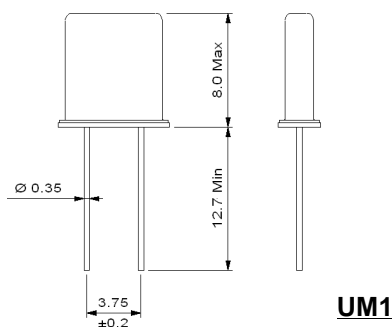
### Electrical specifications :

Parameters	Conditions	Min	Typ	Max	Units
Frequency Range		10		125	MHz
Frequency Tolerance	At 25°C	± 10		± 50	ppm
Temperature Stability	Réf to 25°C	± 10		± 50	ppm
Operating Temperature Range		-55		+ 105	°C
Storage Temperature Range		- 55		+ 105	°C
Shunt Capacitance				7	pF
Load Capacitance	Customer specified	10		Series	pF
Insulator Resistance	100 Vdc	500			M Ω
Drive Level			100		μW
Ageing	At 25°C per year		± 5		ppm

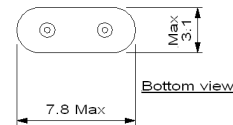
### Equivalent Series Resistance (ESR) and Mode of Vibration (Mode) :

Frequency Range (MHz)	Max (ESR) Ω	Mode
10.000 to 12.999	60	Fundamental
13.000 to 19.999	40	Fundamental
20.000 to 29.999	30	Fundamental
30.000 to 39.999	60	3rd Overtone
40.000 to 59.999	50	3rd Overtone
60.000 to 79.999	50	3rd Overtone
80.000 to 125.000	100	5rd Overtone

### Mechanical Dimensions (mm) :



### Gull Wing Option (G)



Crystal Units  
Through Hole

TYPE	MF-UM1 & MF-UM5	REVISION	01	CHECKED	PB	DATE	24/09/2009
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All specifications are subject to change without notice

# Crystal Units Codification Part Numbering System



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HCX-TAB    12MHz    F    20    A    3    3    S

↓    ↓    ↓    ↓    ↓    ↓    ↓    ↓

Package	Nominal Frequency (MHz)	Vibration Mode	Load Capacitance	Operating Temperature Range	Frequency Tolerance	Frequency Stability	Option
HCX-TAB HCX-1AB HCX-2SB HCX-3SB HCX-5SB HCX-5SA HCX-6SB HCX-6SA HCX-7SB HC-49SMA HC-49SMB HC-49SA HC49-SB MF-UM1 MF-UM5 HC-49U	Please enter the nominal frequency	F = AT-fund T = AT-3rd V = AT-5th B = BT-fund	00 = series 10 = 10pF 32 = 32pF Other load capacitance on request	A= 0°C to +50°C B= 0°C to +70°C C= -10°C to +60°C D= -10°C to +70°C E= -20°C to +70°C G= -30°C to +85°C M= -40° to +85°C R= -55° to +125°C	1=±10ppm 2=±20ppm 3=±30ppm 5=±50ppm 0=±100ppm X=±5ppm Y=±15ppm Z=±25ppm	1=±10ppm 2=±20ppm 3=±30ppm 5=±50ppm 0=±100ppm X=±5ppm Y=±15ppm Z=±25ppm	S = Insulator tab

TYPE	CODIFICATION	REVISION	01	CHECKED	PB	DATE	24/09/2009
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All specifications are subject to change without notice